PATENT
Attorney Docket No.: 018563-003600US
Client Ref. No.: AT-00072

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of:

TROSIEN, ANDREW et al.

Application No.: 09/557,382

Filed: April 25, 2000

For: TREATMENT ANALYSIS SYSTEMS AND METHODS

Examiner: VANEL, FRENEL

Art Unit: 3626

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Appellant offers this Appeal Brief in furtherance of the Notice of Appeal filed on October 5, 2004 in the above-referenced patent application. Please deduct the requisite fee, pursuant to 37 C.F.R. § 41.20(b)(2), of $500 from deposit account 20-1430, and deduct any additional fees or credit any excess fees associated with the Appeal Brief to such deposit account. Appendix A, attached hereto, contains a copy of all claims pending in this case. Appendix B, attached hereto, contains a copy of evidence entered and relied upon in the appeal. Appendix C, attached hereto, is marked the related proceeding appendix.

REAL PARTY IN INTEREST:

All right, title, and interest in the subject invention and application are assigned to Align Technology, Inc., having offices at 881 Martin Avenue, Santa Clara, California 95050. Therefore, Align Technology, Inc. is the real party interest.

RELATED APPEALS AND INTERFERENCES:

No other appeals or interferences are known which will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS:

Claims 1-25 were originally presented in the application. Claims 1-25 have been rejected. Claims 1-25 are the subject of this appeal. No other claims are pending.

STATUS OF AMENDMENTS:

A Final Office Action was mailed on May 17, 2004. A Request for Continued Examination, a Supplemental Information Disclosure Statement, a Preliminary Amendment requesting consideration of the additional references, and a response to this Final Office Action in the form of a Notice of Appeal were filed on October 5, 2004.

A copy of all the pending claims involved in the appeal is provided in Appendix A attached hereto.

SUMMARY OF CLAIMED SUBJECT MATTER:

The appealed claims are directed to dental treatment planning systems and methods. The dental treatment planning system of independent claims 1 and 11 and method of independent claim 16 each require an input form to receive one or more dental patient inputs and an engine adapted to receive the dental patient data from the input form (steps 380; 384; 390) and validate the dental patient data in a predetermined sequence (steps 382; 386; 392). These elements are discussed in the application, for example at page 2, line 21 through page 3, line 9; page 14, line 3 through page 16, line 19; Figs. 5, 7, and 8.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL:

I. Claims 1-25 stand rejected under 35 U.S.C. § 103(a) as being rendered obvious over U.S. Patent No. 6,283,761 issued to Joao in view of U.S. Patent No. 5,683,243 issued to Andreiko et al.

ARGUMENT

I. Rejection Under 35 U.S.C. § 103(a)

A. Claims 1-25

In the Final Office Action dated May 17, 2004, the rejection of claims 1-25 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,283,761 issued to Joao in view of U.S. Patent No. 5,683,243 issued to Andreiko et al. as set forth in the previous Office Action of December 2, 2003 was maintained. Appellant respectfully traverses this rejection for the following reasons discussed below.

The present rejection does not establish *prima facie* obviousness under 35 U.S.C. § 103 and M.P.E.P. §§ 2142-2143. The Examiner bears the initial burden to establish and support *prima facie* obviousness. *In re Rinehart*, 531 F.2d 1048, 189 U.S.P.Q. 143 (CCPA 1976). To establish *prima facie* obviousness, three basic criteria must be met. M.P.E.P. § 2142. First, the Examiner must establish that the prior art references, alone or in combination, teach or suggest all the claim limitations. M.P.E.P. §2143.03; *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). Second, the Examiner must show some suggestion or motivation, either in the prior art references or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the reference teachings so as to produce the claimed invention. M.P.E.P. § 2143.01; *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). Third, the Examiner must establish that there is a reasonable expectation of success for the modifications. M.P.E.P. § 2142. Appellant respectfully submits that a *prima facie* case of obviousness has not been met because the Examiner's rejection fails on at least two of the above requirements.

First, Appellant notes the cited art, alone or in combination, fails to teach or suggest all the claim limitations of independent claims 1, 11, and 16. Independent claim 1 reads as follows:

An dental treatment planning system, comprising:
an input form to receive one or more dental patient inputs;
an engine adapted to receive the dental patient data from the input form and validating the dental patient data in a predetermined sequence.

This last element of "an engine adapted to receive the dental patient data from the input form and validating the dental patient data in a predetermined sequence" has not been shown or suggested by either the Joao or Andreiko et al. patents.

As the Examiner has already acknowledged, Joao does not show aspects such as "an engine adapted to receive the dental patient data from the input form and validating the dental patient data in a predetermined sequence" or "validating data entry relating to a patient treatment plan to an input form in a predetermined sequence and visualizing patient data in response to a user request" as noted on pages 3, 4, and 8 of the Office Action dated December 2, 2003. To cure this deficiency, the Examiner relies on Andreiko et al. for showing the claimed data validation element. *Id.*, pages 3-5 and 8. Appellant respectfully disagrees.

The Examiner cites to Andreiko et al. at section col. 21, lines 48 to col. 22, line 56 as showing the claimed data receiving/validating engine, which section is reproduced below:

(94) Input Procedure:

In the input procedure (90) is illustrated in the flowchart of FIG. 2A. In the procedure (94), the received information 16 is input, in the illustrated embodiment by operator 28 at the design facility 13, into a computer 30 in digital form. Even where the inputing is performed by operator at the design facility 13, some information 16, such as the information 17 and 19, may be supplied by the orthodontist 14 in machine readable form and input directly into the computer 30. The input procedure (94) includes five steps (100)-(500), the substeps of which are described in detail in connection with the flowchart details of FIGS. 2E-2I below. The steps of the input procedure (90), in the illustrated embodiment, also include certain substeps that are part of the function of the analysis step (92) but are more conveniently performed at the time of the information is entered into the computer.

The input steps (100) and (200) involve the entry of background information assembled by the orthodontist 14. In the input steps (300), (400) and (500), tooth and jaw positions and profiles are defined in terms of orthodontic parameters and landmarks that can be later analyzed by computer to best implement the orthodontic knowledge, skill and experience embodied in the prescription 27 and of the orthodontic profession while efficiently automatically producing a optimum result. These steps of the input procedure (90) include:

(100) The inputing of the doctor-patient identification information 17 in

digital form into the computer 30a:

This information is used to identify the records of the patient and the products produced.

(200) The inputing of patient background information 19 in digital form into the computer 30a:

This information is used in part in the calculating the finish position of the patient's teeth in accordance with genetic characteristics. Sex and race, for example, are used to assign certain seed values such as the inclination of the axes of the individual teeth of the patient 12 to an arch plane in step (625), which is used to determine an offset for tips of the teeth from the jaw bone or gum line.

This information also includes diagnostic determinations and treatment option decisions made by the orthodontist 14, such as determinations to extract teeth, or employ optional treatment norms.

(300) The inputing into the computer 30, from a top view image of the patient's mandibular model 21, the mandibular jaw shape and tooth dimensional information:

In implementing a treatment to correct the tooth alignment of the patient 12, the mandible 22 is the logical starting point because it is a solid bone and has relatively little pliancy. By contrast, the maxilla or upper jaw 24 is composed of segments held together by sutures which do not fuse until mid or late teens. Furthermore, these sutures can be separated by the orthodontist even after the point of initial fusion by simple and commonly known clinical techniques. These anatomical factors require that the orthodontist 14 make relatively small changes in the mandibular bone 22 and the preponderance of skeletal changes in the maxilla 24. For this reason, the position of the mandibular trough MT therefore taken as a constraint on the positions of the roots of the lower teeth.

In step (300) information is input for use, in part, to define from the patient's lower jaw bone the shape of the mandibular trough MT, which serves as the first constraint in arriving at the finish position of the teeth. In one embodiment, this is accomplished by superimposing a predefined grid G on a video or graphics image of the mandibular trough (from FIG. 3) in the manner illustrated in FIG. 4. In addition, the distances between the mesiodistal extremities, or mesiodistal widths MDW, that is, their contact points with adjacent teeth, in a horizontal plane, are input. These determine the total length of the dental arch and the relative center-to-center spacings of the teeth along the arch.

Id., pages 4-5 and 8 (emphasis added). This cited section falls far short of suggesting "an engine adapted to receive the dental patient data from the input form and validating the dental patient data in a predetermined sequence." At best, the Andreiko et al. input steps "involve the entry of background information assembled by the orthodontist 14. In the input steps (300), (400) and (500), tooth and jaw positions and profiles are defined in terms of orthodontic parameters and landmarks that can be later analyzed by computer to best implement the orthodontic knowledge,

skill and experience embodied in the prescription 27 and of the orthodontic profession while efficiently automatically producing a optimum result."

The Examiner further cites to Andreiko et al. at section col. 21, lines 19-67 and col. 24, lines 14-20 as showing the claimed data validation element, which section is reproduced below:

> (87) Analysis, Design and Manufacture Operation
>
> When the information 16, which includes, for example, the model 20, the prescription 27 and the information 17 and 19, are received either at the appliance system manufacturer 13 or is ready to be digitized at the orthodontist's office 11, (87) an analysis, finish tooth position calculation, and orthodontic appliance design and manufacturing operation is begun. In the operation (87), the information 16 is processed and the custom appliance 25 for moving the patient's teeth to an optimum final or finish position in accordance with treatment prescribed by the orthodontist 14 is produced.
>
> The operation (87) includes the procedures of (94) inputing into a computer the information 16 from the orthodontist 14, in digital form, (95) analyzing with the aid of computer 30b the input digitized information to arrive at the finish position of the teeth, (96) designing with a computer a custom orthodontic appliance in accordance with the computer analysis, (97) manufacturing the custom appliance 25 in accordance with the computer assisted design with the aid of computer controlled machinery, and (98) communicating the custom appliance 25 and accompanying instructions to the orthodontist 14.
>
> In accordance with certain embodiments of the present invention, some or all of the appliance manufacturing step (97) can be performed at the facilities 11 of the orthodontist 14, in which case the communicating step (98) would involve the communication of machine readable code, in lieu of some or all of the completed custom appliance 25, from the design facility 13 to the orthodontist 14.
>
> (94) Input Procedure:
>
> In the input procedure (90) is illustrated in the flowchart of FIG. 2A. In the procedure (94), the received information 16 is input, in the illustrated embodiment by operator 28 at the design facility 13, into a computer 30 in digital form. Even where the inputting is performed by operator at the design facility 13, some information 16, such as the information 17 and 19, may be supplied by the orthodontist 14 in machine readable form and input directly into the computer 30. The input procedure (94) includes five steps (100)-(500), the substeps of which are described in detail in connection with the flowchart details of FIGS. 2E-2I below. The steps of the input procedure (90), in the illustrated embodiment, also include certain substeps that are part of the function of the analysis step (92) but are more conveniently performed at the time of the information is entered into the computer.
>
> The input steps (100) and (200) involve the entry of background information assembled by the orthodontist 14. In the input steps (300), (400) and

> (500), tooth and jaw positions and profiles are defined in terms of orthodontic parameters and landmarks that can be later analyzed by computer to best implement the orthodontic knowledge, skill and experience embodied in the prescription 27 and of the orthodontic profession while efficiently automatically producing a optimum result.
>
> For each tooth, profile data is taken in separate X-Y coordinates that relate only to the selected surface or plane. In the course of the analysis and calculation of finish tooth position, these planes are separately translated and reoriented with respect to those of the other teeth and those of the trough and archforms, in several steps, until the ultimate interplane relationships are established.

Id., page 3. Both of these passages again fail to teach or suggest "validating data entry relating to a patient treatment plan to an input form in a predetermined sequence and visualizing patient data in response to a user request."

The Andreiko et al. reference is directed to an apparatus for automatically designing and manufacturing custom orthodontic appliances, particularly conventional braces (i.e., brackets, archwires, jigs). This is carried out from anatomical shape data preferably of the lower jaw and teeth of a patient. A scanner produces images in three dimensions. A computer constructs archforms and calculates finish tooth positions, then automatically designs an appliance, preferably including archwires and brackets, to move the teeth to the calculated positions and jigs to place the brackets on the teeth of the patient. Program controlled machines make the brackets, wires and jigs to the appliance design driven by commands derived from digitized tooth and jaw shape data. Andreiko et al. is absolutely silent about an engine that receives and validates dental patient data in a predetermined sequence.

The sections cited by the Examiner correspond to Andreiko's Fig. 2A, which relates to receiving treatment information input including Doctor/Patient ID input (Fig. 2E), treatment information input (Fig. 2F), mandibular bone data input (Fig. 2G), maxillary tooth plan view data input (Fig. 2H), and tooth vertical profile input (Fig. 2I). However, Figs. 2A and 2E-2I show no data validation engine. The word "validation" does not exist in Andreiko et al. Andreiko et al. does not have such data validation capability.

As discussed on pages 14-15 and shown in Fig. 5 of the present application, the present invention in contrast provides an engine that performs a validity check of the diagnostic entry (step 358). The entered data can be crosschecked against case selection criteria to ensure that the submitted case is acceptable for treatment. In one embodiment, the answers from each

question prompt specific subsequent questions. For example, when a treatment goal input is given, the system checks that the input is compatible with previous diagnostic input, that the treatment goal is realistic with what is deemed acceptable, and that the treatment goal is compatible with other previously entered treatment goals (step 362). The data that has been input will generate further questions, and eliminate possible questions that do not have to do with that particular patient. In other embodiments, specific questions are generated to guide the doctor through a plan for how to get the teeth from their start to end position. The system then performs a validity check of the treatment plan entry (step 366). This validity check ensures that the doctor does not enter two incompatible answers that would involve the teeth running into each other, or not heading in the direction of the goal, among others. In another embodiment, the engine generates a summary for review by the doctor to allow the doctor to review all of the entered data and ensure that it is in accordance with what he intended.

The attached Evidence Appendix B provides yet another example of one embodiment of the engine adapted to receive the dental patient data from the input form and validate the dental patient data in a predetermined sequence.

The present invention provides several advantages, as described in the present application from page 3, line 14 to page 4, line 13:

> The system also prevents an orthodontist from entering conflicting diagnoses. Because a patient's teeth and the way they define a bite are interrelated, a series of **logical rules are used to crosscheck the diagnoses and to prevent an invalid diagnosis**. The system also checks for and requires the entry of a diagnosis for any area for which one is required. This prevents one type of inaccuracy in diagnosis, in that a negative finding is equivalent to an incorrect positive finding.
>
> The **system** also limits path choices based on the initial and end points for teeth. This **prevents an inaccurate path by limiting the path choices to those that head in the correct direction**. The system also prevents the orthodontist from entering two conflicting paths. By cross checking the paths, the system can eliminate invalid paths.
>
> Additionally, certain shortcomings of the appliances with regard to the biology, physics, and mechanics of tooth movement are known. Thus, the system considers the biology, physics, and material of tooth movement in optimizing the treatment plan. **The system prevents the orthodontist from entering a goal that is not deemed attainable by the system and the information can be relayed to the doctor when a valid and accurate plan is described that involves these shortcomings**. This will allow the doctor to tailor the plan to

> avoid any pitfalls inherent in the system. Moreover, the system provides feedback, for example direction and education, when the orthodontist is prevented from entering data not allowed by the system. Because there are multiple goals and paths to reach them, a quality result is not guaranteed from an accurate and valid diagnosis. Feedback when a mistake is made in the diagnosis can be used to educate and direct the thinking of the doctor which will perhaps lead to the redevelopment of an entirely new, better, plan, rather than the mere correction of the error which generated the feedback.

(Emphasis added). In contrast, Andreiko et al. does not use logic rules to validate data entry. As such, Andreiko et al. can not provide any of the advantages as outlined above.

Secondly, Appellant notes that no motivation or suggestion, either in the cited art references or in the knowledge generally available to one of ordinary skill in the art, has been cited by the Examiner to modify the Andreiko et al. reference so as to produce the claimed invention. In the Final Office Action, the Examiner appears to concede that "Andreiko does not explicitly teach a validation engine." Final Office Action dated May 17, 2004, page 3. However, the Examiner cites to Andreiko et al. at section col. 5, lines 30-51 for suggesting a data validation engine, which section is reproduced below:

> In accordance with certain preferred embodiments of the invention, an archwire forming machine that is responsive to NC code is driven by signals generated by a computer that reads input data of anatomical shapes of the patient's mouth, is provided to automatically form an arcuate appliance that interconnects the teeth to move them toward their finish positions by rotational and translational forces applied in three dimensions each by the arcuate appliance. Generally, the arcuate appliance is an archwire, and the machine for forming the appliance includes an archwire forming machine that is responsive to NC code is driven by signals generated by a computer that reads input data of anatomical shape of the patient's mouth, preferably of the patient's jaw and teeth, derives the tooth finish positions and archwire and bracket designs that will move the teeth to the calculated finish positions, and generates the machine code to produce the archwire in accordance with the design. Preferably, the archwires have shapes that conform to archforms related to the finish tooth positions, particularly to the shape of the patient's lower jaw, and is represented as a series of segments of a continuous archwire that each have a constant radius of curvature over the length of the segment, and that preferably join adjacent segments in a smooth transition, with the segments tangent where they join.

Id. Specifically, there is no suggestion or motivation whatsoever in this cited section about a data validation engine. Appellant notes that hindsight reconstruction is impermissible. As the

Examiner is certainly aware, the teachings or suggestions must be found in the prior art, rather than in Appellant's disclosure. *In re Vaeck*, 947 F.2d 448, 20 U.S.P.Q.2d 1438 (CAFC 1991).

Appellant further points out that the Examiner bears the initial burden of factually establishing and supporting any *prima facie* conclusion of obviousness. *In re Rinehart*, 531 F.2d 1048, 189 U.S.P.Q. 143 (CCPA 1976); M.P.E.P. § 2142. If the Examiner does not produce a *prima facie* case, the Applicant is under no obligation to submit evidence of nonobviousness. *Id.* In the instant case, the Examiner has not pointed to any concrete evidence in Andreiko et al., or how knowledge of those skilled in the art, provide a suggestion or motivation to modify the Andreiko et al. reference teaching so as to produce the claimed invention of claim 1 of an engine adapted to receive the dental patient data from the input form and validate the dental patient data in a predetermined sequence. See *In re Zurko*, 258 F.3d 1379, 59 U.S.P.Q.2d 1693 (Fed. Cir. 2001) ([I]n a determination of patentability .... the Board cannot simply reach conclusions based on its understanding or experience - or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings).

Under *Vaeck*, absent any concrete evidence of a cited suggestion or reasonable motivation in the Andreiko et al. reference for "an engine adapted to receive the dental patient data from the input form and validating the dental patient data in a predetermined sequence, " *prima facie* obviousness of claim 1 (and claims 2-10 which depend therefrom) has not been established. As such, it is respectfully requested that the § 103(a) rejection of independent claim 1 (and dependent claims 2-10) be withdrawn and the claims be allowed.

Independent claims 11 and 16 recite similar limitations as those argued above with respect to claim 1. Hence, claims 11 (and claims 12-15 which depend therefrom) and 16 (and claims 17-25 which depend therefrom) are also in condition for allowance.

CONCLUSION

Appellant believes that the above discussion is fully responsive to all grounds of rejections set forth in the Final Office Action dated May 17, 2004.

If for any reasons the Examiner believes a telephone conference would in any way expedite resolution of the issues raised in this Appeal, the Examiner is invited to telephone the undersigned at 415-273-8317.

Respectfully submitted,

Nena Bains
Reg. No. 47,400

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
(415) 576-0200
Fax (415) 576-0300

Attachments: Appendices A-C
60243283 v1

CLAIMS APPENDIX A

1. (Original) An dental treatment planning system, comprising:

an input form to receive one or more dental patient inputs;

an engine adapted to receive the dental patient data from the input form and validating the dental patient data in a predetermined sequence.

2. (Original) The system of claim 1, wherein the engine prompts the user for additional data based on previous entries.

3. (Original) The system of claim 1, wherein the treatment includes a diagnostic phase, a goal phase and a treatment path determination phase.

4. (Original) The system of claim 1, wherein the engine checks validity for data entered infra-phase.

5. (Original) The system of claim 4, wherein validity is determined by crosschecking against a mutually exclusive condition.

6. (Original) The system of claim 1, wherein the engine checks validity for data entered inter-phase.

7. (Original) The system of claim 6, wherein the engine checks whether the treatment results in an improvement in the patient.

8. (Original) The system of claim 6, wherein the engine checks whether the treatment meets an efficiency guideline.

9. (Original) The system of claim 6, wherein the engine checks whether the treatment meets a prudency guideline.

10. (Original) The system of claim 1, further comprising an appliance having one or more properties, wherein the engine checks the treatment plan against properties of the appliance.

11. (Previously presented) A virtual health-care treatment system, comprising:

a network to communicate information relating to a community;

one or more patients coupled to the network;

one or more treating professionals coupled to the network; and

a server coupled to the network, the server validating data entry relating to a patient treatment plan to an input form in a predetermined sequence and visualizing patient data in response to a user request.

12. (Original) The community of claim 11, wherein the treating professional views one or more of the following patient data visualization over the network:

a right buccal view;

a left buccal view;

a posterior view;

an anterior view;

a mandibular occlusal view;

a maxillary occlusal view;

an overjet view;

a left distal molar view;

a left lingual view;

a lingual incisor view;

a right lingual view;

a right distal molar view;

an upper jaw view;

and a lower jaw view.

13. (Original) The community of claim 11, wherein the treating professionals include dentists or orthodontists.

14. (Original) The community of claim 11, further comprising one or more partners coupled to the network.

15. (Original) The community of claim 11, wherein the patients and the treating professionals access the server using browsers.

16. (Original) A method for performing dental treatment planning, comprising: receiving one or more dental patient inputs; and validating the dental patient data in a predetermined sequence.

17. (Original) The method of claim 16, further comprising prompting for additional data based on previous entries.

18. (Original) The method of claim 16, wherein the treatment includes a diagnostic phase, a goal phase and a treatment path determination phase.

19. (Original) The method of claim 16, further comprising checking validity for data entered intra-phase.

20. (Original) The method of claim 18, wherein validity is determined by crosschecking against a mutually exclusive condition.

21. (Original) The method of claim 16, further comprising checking validity for data entered inter-phase.

22. (Original) The method of claim 20, further comprising checking whether the treatment results in an improvement in the patient.

23. (Original) The method of claim 20, further comprising checking whether the treatment meets an efficiency guideline.

24. (Original) The method of claim 20, further comprising checking whether the treatment meets a prudency guideline.

25. (Original) The method of claim 16, further comprising checking the treatment plan against properties of an appliance.

EVIDENCE APPENDIX B

Reproduced below is the Appendix filed with the present application. Application, pages 25-30. This Appendix was further provided in an amendment filed on March 4, 2004 and entered in the record as acknowledged by the Examiner in the Final Office Action of May 17, 2004, page 1.

APPENDIX						
Legend						
	Printed statements. Question prompts.					
	Printed header.					
	Function.					
	Answer choices.					
	Case Type					
	Please select which Align Recommended		Mild Spacing			
	Treatment case your patient best represents.		Moderate Spacing			
	Click all that apply.		Mild Crowding			
			Moderate Crowding			
			Narrow Arch			
			Post-orthodontic Relapse			
	Doctor & Patient Information					
A	Doctor's Name					
B	Street Address					
C	City, State, Zip					
D	Phone					
E	email					
E1	FAX					
E2	Contact Person					
F	Patient's Name					
G	Age					
H	Gender					
H1	Chief Concern					
!!!	Calculate patients age.		Print patient's age.			
	Diagnosis					

APPENDIX						
I	Right Canine Sagittal relationship	2	Full Class II			
		5	End on Class II			
		7	2 mm Class II			
		8	1 mm Class II			
		9	Solid Class I			
		10	1 mm Class III			
		11	2mm Class III			
		13	End on Class III			
		16	Full Class III			
J	Left Canine Sagittal relationship	2	Full Class II			
		5	End on Class II			
		7	2 mm Class II			
		8	1 mm Class II			
		9	Solid Class I			
		10	1 mm Class III			
		11	2mm Class III			
		13	End on Class III			
		16	Full Class III			
K	Upper midline to facial midline		Centered			
			Displaced right	Enter millimeters		
			Displaced left	Enter millimeters		
L	Lower midline to facial midline		Centered			
			Displaced right	Enter millimeters		
			Displaced left	Enter millimeters		
M	Upper arch length discrepancy		None			
			Spacing	Enter millimeters		
			Crowding	Enter millimeters		
N	Lower arch length discrepancy		None			
			Spacing	Enter millimeters		
			Crowding	Enter millimeters		
O	Upper incisor torque		Normal			
			Proclined			
			Retroclined			
P	Lower incisor torque		Normal			
			Proclined			

APPENDIX						
			Retroclined			
P1	Transverse relationship		Upper and lower in good relationship			
			Maxilla is narrower			
			Mandible is narrower			
Q	Missing teeth		Indicate on grid	8 7 6 5 4 3 2 1	1 2 3 4 5 6 7 8	
				8 7 6 5 4 3 2 1	1 2 3 4 5 6 7 8	
R	Crowns/bridges/facial restorations		Indicate on grid	8 7 6 5 4 3 2 1	1 2 3 4 5 6 7 8	
				8 7 6 5 4 3 2 1	1 2 3 4 5 6 7 8	
R1	Tooth size discrepancy		Indicate teeth on grid	8 7 6 5 4 3 2 1	1 2 3 4 5 6 7 8	
				8 7 6 5 4 3 2 1	1 2 3 4 5 6 7 8	
R2	Ankylosed/impacted teeth		Indicate teeth on grid	8 7 6 5 4 3 2 1	1 2 3 4 5 6 7 8	
				8 7 6 5 4 3 2 1	1 2 3 4 5 6 7 8	
R3	CR/CO shift?		No			
			Yes			
!!!	If R3= "Yes" then		Print "Please note that Align currently only recommends treatment from the CO position."			
	Treatment goals					
R2	Treat arches		Both			
			Upper only			
			Lower only			
R3	For limited treatment treat at least		Indicate teeth on grid	8 7 6 5 4 3 2 1	1 2 3 4 5 6 7 8	
				8 7 6 5 4 3 2 1	1 2 3 4 5 6 7 8	
S	Right Canine Sagittal Relationship	0	Maintain			
		2	Full Class II			
		5	End on Class II			
		7	2 mm Class II			
		8	1 mm Class II			
		9	Solid Class I			
		10	1 mm Class III			
		11	2mm Class III			
		13	End on Class III			
		16	Full Class III			

APPENDIX						
!!!	If S=0 or if S-I=0 then go to V					
!!!	If ABS (S-I) > 3 then		Print "The Invisalign System is not currently recommended for such a large sagittal change. Please attempt a smaller change."	Go to S		
!!!	If R2 = "Lower only" and S-I > 0 then		Print "Sagittal cannot be changed with out treating upper."		Go to S	
!!!	If R2 = "Lower only" and S-I < or = 0 then		Go to U			
!!!	If R2 = "Upper only" and S-I < 0 then		Print "Sagittal cannot be changed with out treating lower."		Go to S	
!!!	If R2 = "Upper only" and S-I > or = 0 then		Skip U			
T	If I-S < 0 then		Achieve sagittal change by	Distalize upper molars		
			Check all that apply	Lower posterior interproximal reduction		
				Upper posterior interproximal reduction		
U	If I-S > 0 then		Achieve sagittal change by	Distalize lower molars		
				Lower posterior interproximal reduction		
				Upper posterior interproximal reduction		
V	Left Canine Sagittal Relationship	0	Maintain			
		2	Full Class II			
		5	End on Class II			
		7	2 mm Class II			
		8	1 mm Class II			
		9	Solid Class I			
		10	1 mm Class III			
		11	2mm Class III			
		13	End on Class III			
		16	Full Class III			
!!!	If V=0 or if V-J=0 then go to Y					
!!!	If ABS(V-J) > 3 then		print "The Invisalign System is not currently recommended for such a large sagittal change. Please attempt a smaller change."	Go to V		

APPENDIX						
!!!	If R2 = "Lower only" and V-J > 0 then		Print "Sagittal cannot be changed with out treating upper."		Go to V	
!!!	If R2 = "Lower only" and V-J < or = 0 then		Go to W			
!!!	If R2 = "Upper only" and V-J < 0 then		Print "Sagittal cannot be changed with out treating lower."		Go to V	
!!!	If R2 = "Upper only" and V-J > or = 0 then		Skip X			
W	If J-V < 0 then		Achieve sagittal change by	Distalize upper molars		
				Lower posterior interproximal reduction		
				Upper posterior interproximal reduction		
X	If J-V > 0 then		Achieve sagittal change by	Distalize lower molars		
				Lower posterior interproximal reduction		
				Upper posterior interproximal reduction		
Y	If M = "Spacing" then		Eliminate upper spacing by	Maximum anchorage (Retract anteriors)		
			Check all that apply	Reciprocal closure		
				Minimum anchorage (Protract molars)		
AB	If M = "Crowding" then		Reduce upper crowding by	Torque anteriors		
			Check all that apply	Expand posteriors		
				Interproximal reduction	Indicate on grid	8 7 6 5 4 3 2 1
						8 7 6 5 4 3 2 1
AC	If N = "Crowding" then		Reduce lower crowding by	Torque anteriors		
			Check all that apply	Expand posteriors		
				Interproximal reduction	Indicate on grid	8 7 6 5 4 3 2 1
						8 7 6 5 4 3 2 1
				Extract lower incisor	indicate on grid	
						2 1
AD	If N = "Spacing" then		Close spaces with	Maximum anchorage (Retract anteriors)		
			Check all that apply	Reciprocal closure		
				Minimum anchorage (Protract molars)		
!!!	If P1 = "Upper and Lower in good relationship" and either AA or AB = "expand posteriors" but not both, then					
			print "You must expand both arches, or neither, to preserve transverse"			

APPENDIX						
AE	If R1 has information then		Relieve tooth size discrepancy by	Leave space	indicate on grid	8 7 6 5 4 3 2 1
						8 7 6 5 4 3 2 1
			check all that apply	Interproximal reduction	indicate on grid	8 7 6 5 4 3 2 1
						8 7 6 5 4 3 2 1
AF			Curve of Spee	Level (may require attachments)		
				Maintain		
!!!	If AF = Maintain and S-I not = and V-J not 0 then	Print "A less than flat Curve of Spee may prevent achieving sagittal correction."				
AG	If P1 = "Maxilla Narrower" then		Correct transverse relationship by	Expand maxilla		
AH	If P1 = "Mandible Narrower" then		Correct transverse relationship by	Constrict maxilla		
			Check all that apply	Expand mandible		
AI	Special instructions		Free form text box			
AJ	Will the patient object if attachments are placed?			Please don't use attachments.		
	(Align will place them only as needed.			Attachments are fine.		
	Results may be compromised if not used.)					
AK	Has this patient's case been shipped to Align before?			Yes		
				No		
AJ	Aligner shipment timing		PreCheck (sets 1-3 arrive in 6 weeks, prior to ClinCheck approval)			
			Standard (sets 1-12 arrive in 8 weeks)			

RELATED PROCEEDINGS APPENDIX C

None.